



BK BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL

MID-TERM EXAMINATION 2023-24

BIOLOGY (044)



Class : XI
Date : 20.10.23
Admission No.:

Duration : 3 Hrs
Max. Marks : 70
Roll No.:

General Instructions:

- (i) This question paper consists of 33 questions. All questions are compulsory.
- (ii) Question paper is divided into five sections viz. A, B, C, D and E.
- (iii) Section A – question numbers 1-12 are multiple choice questions and 13-16 are assertion & reason, carrying 1 mark each.
- (iv) Section B – question numbers 17-21 are Very short Answer type questions carrying 2 mark each. Answers to these questions should be in the range of 30 to 50 words.
- (v) Section C – question numbers 22-28 are short Answer type questions carrying 3 mark each. Answers to these questions should be in the range of 50 to 80 words.
- (vi) Section D – question numbers 29-30 are 3 Case Based units of assessment having 4 questions carrying 1 or 2 mark each.
- (vii) Section E – question numbers 31-33 are Long Answer type questions carrying 5 marks each. Answers to these questions should be in the range of 80 to 120 words.
- (viii) There is no overall choice. However, an internal choice has been provided in some questions. A student is expected to attempt only one of these questions.

Section–A

(Select and write one most appropriate option out of the four options given for each of the questions 1-16 of 1 mark each)

1. What is the correct sequence? 1
(a) Genus-species-order-kingdom (b) Species-order-phylum-kingdom
(c) Species-genus-order-phylum (d) Kingdom-phylum-class-order
2. The scientific name of mango is _____. 1
(a) *Mangifera indica* (b) Mangifera Indica (c) Mangifera indica (d) *Mangifera Indica*
3. In which of the following kingdom are Archaea and Nitrogen-fixing organisms classified? 1
(a) Animalia (b) Plantae (c) Monera (d) Fungi
4. Blue-green algae belong to which group? 1
(a) Protista (b) Prokaryotes (c) Fungi (d) Bryophyte
5. Which of the plant groups needs both land and water to complete their life cycle? 1
(a) Tracheophyta (b) Pteridophyta (c) Thallophyta (d) Bryophyta
6. Vascular bundles are not found in _____. 1
(a) Gymnosperms (b) Pteridophytes (c) Angiosperms (d) Bryophytes
7. Identify the characteristic of acoelomates. 1
(a) Absence of mesoderm
(b) Absence of brain
(c) Coelom that is incompletely lined with a mesoderm
(d) Solid body without a cavity surrounding internal organs

8. Select the correct pair. 1
 (a) Arthropoda- silver fish (b) Pisces- jelly fish
 (c) Echinodermata- cuttle fish (d) Mollusca- star fish
9. _____ are the non-essential parts of a flower. 1
 (a) Androecium and gynoecium (b) Sepals and carpels
 (c) Sepals and petals (d) Sepals and gynoecium
10. The stem modified into flat, green organs performing the function of leaves is _____. 1
 (a) Phyllodes (b) Cladodes (c) Phylloclade (d) Scales
11. Which of these is composed of dead cells? 1
 (a) Xylem parenchyma (b) Phellem (c) Phloem (d) Collenchyma
12. Which of the following yields fibres? 1
 (a) Sisso (b) Teak (c) Oak (d) Coconut

Directions: In each of the following questions 13-16, a statement of Assertion is given, and a corresponding statement of Reason is given just below it. Of the statements, given below, mark the correct answer as:

- (a) Both assertion and reason are true, and reason is the correct explanation of assertion.
 (b) Both assertion and reason are true, but reason is not the correct explanation of assertion.
 (c) Assertion is true, but reason is false.
 (d) Assertion is false, but reason is true.
13. Assertion: When the veins run parallel to each other within a lamina, the venation is termed as parallel which is the characteristic of most monocotyledons
 Reason: When the veinlets form a network, the venation is termed as reticulate which is generally found in dicotyledons. 1
14. Assertion: Water vascular system of echinoderms helps in locomotion, capture and transport of food and respiration.
 Reason: Echinoderms are spiny bodies animals in which development is indirect with free-swimming larva. 1
15. Assertion: The haploid plant body (gametophyte) produces gametes by mitosis
 Reason: Diploid sporophytic plant body produces spores by meiosis. 1
16. Assertion: Gorilla and tiger belong to same class.
 Reason: Primata and carnivora included in Mammalia . 1

Section-B

(Q.no.17-21 are very short answer questions of 2 marks each)

17. Who proposed five kingdom system of classification? What were the main criteria? 2
18. Name the following; 2
 (a) The photosynthetic pigments present in green alga.
 (b) The photosynthetic pigments present in red and brown alga.
 (c) The alga from which Agar is extracted.
 (d) Name any two Hydrocolloid substances extracted from red & brown algae.
19. What is Metamerism? In which animals it is seen? 2
20. Differentiate between: 2
 (a) Unisexual and Bisexual flowers.
 (b) Actinomorphic and Zygomorphic flowers.
21. Explain the various types of complex tissues and mention their functions. 2

OR

What are the various components of epidermal tissue? Explain.

Section– C

(Q.no.22-28 are short answer questions of 3 marks each)

22. Define Taxonomic Hierarchy. What are the various levels in taxonomic hierarchy? 3
23. What are lichen & mycorrhiza? Explain how both algae and fungi are benefited in Lichen. 3
24. Differentiate the male cone from female cone in gymnosperms. 3
25. What is double fertilization? What are the products of double fertilization? 3
26. With which organism the following organelles are associated? Mention their functions.
(a) Flame cells (b) Nephridia (c) Cnidoblasts (d) Malpighian tubules (e) Trachea (f) Tube feet 3
27. Define Aestivation. Explain the various types of aestivations in flower. 3

OR

- What is Phyllotaxy? Explain the various types of Phyllotaxy.
28. Explain how the secondary growth occur in dicot stem? 3

Section– D

(Q.no.29-30 are case based questions of 4 marks each)

29. Taxonomy is the study of the classification, characterization, nomenclature, and identification of organisms and it is a branch of science. Systematics is another branch of science that includes the study of the classification, nomenclature, identification, and evolutionary history of an organism. Thus, the taxonomic characteristics of an organism along with its evolutionary history come under systematics. In 1813, A.P de Candolle was the first to introduce the term taxonomy while systematics was introduced as the time of human civilization. The term Systematics is derived from the Latin word 'systema' which means the systematic arrangement of organisms. Linnaeus (father of taxonomy) published his book Systema Naturae where the classification of plants, animals were based on taxonomy.
- (a) Define Taxonomy. 1
- (b) Who is the father of Taxonomy? 1
- (c) What do you understand by the word Systematics? where is this word derived from? 2

OR

- Name the book published by Linnaeus .what is its content?
30. The growth of roots and stems of plants in length accomplished by the apical meristems, is called primary growth. The dicotyledonous plants show secondary growth, i.e., an increase in the girth of stem and root with the help of lateral meristems ,also called cambium. The intercalary meristem present in nodes will also increase the length of the stem.
- (a) How does stem length increase? 1
- (b) Name the meristem which increases girth of stem. 1
- (c) Name three maristematic tissues . In which plants is secondary growth observed.? 2

OR

Differentiate between primary and secondary growth.

Section–E

(Q.no.31-33 are Long answer questions of 5 marks each)

31. On what basis fungi were classified? Write the features of Phycomycetes, Ascomycetes, Basidiomycetes and Deuteromycetes. 5

OR

Write a note on chrysophytes, Dinoflagellates, Euglenoids, Slime moulds and Protozoans.

32. Write the general features of phylum Platyhelminthes and Aschelminthes. 5

OR

Write the general features of class Aves and Mammalia.

33. Explain the structure of dicot and monocot seed with the help of neat labelled diagrams. 5

OR

Explain the various types of stem modifications with the help of examples.

BEST OF LUCK